

CLAIMS

What is claimed is:

- 1 1. A method for producing nitric oxide comprising:
 - 2 producing nitric oxide by using an ionic exchange resin.
- 1 2. The method of claim 1, wherein the ionic exchange resin is an anionic exchange resin.
- 1 3. The method of claim 2, wherein the anionic exchange resin has a counter ion selected from the group consisting of ascorbate, nitrite, a weak-acid anion, lactate, and a diazeniumdiolate-containing composition.
- 1 4. The method of claim 1, wherein the ionic exchange resin is a cationic exchange resin.
- 1 5. The method of claim 4, wherein the cationic exchange resin has a hydrogen-atom counter ion.
- 1 6. The method of claim 1, wherein the ionic exchange resin is in a gel or cream.
- 1 7. A method for producing nitric oxide comprising the step:
 - 2 mixing a salt with a cream, gel, or combination thereof to produce nitric oxide.
- 1 8. The method of claim 7, wherein the salt is sodium chloride, sodium phosphate, or sodium acetate.
- 1 9. The method of claim 7, wherein the cream or gel is an ion-free hydrogel, an off-white-oil-in-water vanishing cream, or a combination thereof.
- 1 10. The method of claim 7, wherein the cream or gel has an ionic exchange resin therein.

- 1 11. The method of claim 10, wherein the ionic exchange resin is an anionic exchange
- 2 resin.

- 1 12. The method of claim 11, wherein the anionic exchange resin has a counter ion selected from the group consisting of ascorbate, nitrite, a weak acid anion, lactate, and a diazeniumdiolate-containing composition.

- 1 13. The method of claim 10, wherein the ionic exchange resin is an cationic exchange
- 2 resin.

- 1 14. The method of claim 13, wherein the cationic exchange resin has a hydrogen-atom counter ion.

- 1 15. The method of claim 12, further comprising reacting a hydrogen-atom cation with
- 2 the ascorbate to produce ascorbic acid.

- 1 16. The method of claim 12, further comprising reacting ascorbic acid with the nitrite to
- 2 form nitric oxide.

- 1 17. The method of claim 12, further comprising reacting a hydrogen cation with the diazeniumdiolate-containing composition to produce nitric oxide.

- 1 18. A method for producing nitric oxide comprising the step:
2 producing nitric oxide by adding a Ph adjuster to a nanofiber having a
3 diazeniumdiolate functional group.

- 1 19. The method of claim 18, wherein the nanofiber is a linear polyethylenimine fiber.

- 1 20. The method of claim 18, wherein the nanofiber is an electrospun nanofiber.

- 1 21. The method of claim 18, wherein the Ph adjuster is phosphate, lactate, citrate, or a
2 combination thereof.

- 1 22. A method for producing nitric oxide comprising the step:
- 2 producing nitric oxide by adding a Ph adjuster to a nanoparticle having a
- 3 diazeniumdiolate functional group.
- 1 23. The method of claim 22, wherein the nanoparticle is cellulose, polystyrene, cm
- 2 cellulose, or chitosan.
- 1 24. The method of claim 22, wherein the Ph adjuster is phosphate, lactate, citrate, or a
- 2 combination thereof.
- 1 25. The method of claim 22, wherein the nanoparticle is within or attached to an
- 2 electrospun nanofiber.